

ASSIGNMENT 4

Textbook Assignment: “New Technology in Data Communications,” chapter 5, pages 5-1 through 5-17;
“Local-Area Networks,” chapter 6, pages 6-1 through 6-18.

- | | |
|--|---|
| <p>4-1. Which of the following pieces of equipment is replacing older Link-11 data terminal sets?</p> <ol style="list-style-type: none">1. AN/USQ-36 Data Terminal Set2. C2P3. AN/USQ-125 Data Terminal Set4. Link-16 | <p>4-5. The single-tone waveform link capability of the CP-2205(P)(V)/USQ-125 provides which of the following functions?</p> <ol style="list-style-type: none">1. Interface with a satellite modem2. Increases UHF transmission range3. Increases HF transmission range4. Reduces HF propagation anomalies |
| <p>4-2. The CP-2205(P)(V)/USQ-125 processor board performs which of the following functions?</p> <ol style="list-style-type: none">1. Modulation/demodulation2. Error detection and correction3. Radio set interface4. All of the above | <p>4-6. Which of the following options of the CP-2205(P)(V)/USQ-125 incorporates a routine to calculate the optimum frequency?</p> <ol style="list-style-type: none">1. Enhanced link quality analysis2. Maximum useable frequency3. Single-tone waveform link4. Multi-frequency link |
| <p>4-3. Which of the following CP-2205(P)(V)/USQ-125 components provides for communications with the CDS computer?</p> <ol style="list-style-type: none">1. Processor board2. Interface board3. Power supply4. Modulator | <p>4-7. Which of the following options of the CP-2205(P)(V)/USQ-125 transmits Link-11 data through a standard wire-line modem?</p> <ol style="list-style-type: none">1. Enhanced link quality analysis2. Maximum useable frequency3. Single-tone waveform link4. Multi-frequency link |
| <p>4-4. The CP-2205(P)(V)/USQ-125 is capable of data encryption.</p> <ol style="list-style-type: none">1. True2. False | <p>4-8. Which of the following options of the CP-2205(P)(V)/USQ-125 incorporates most of the functions of the LMS-11?</p> <ol style="list-style-type: none">1. Enhanced link quality analysis2. Maximum useable frequency3. Single-tone waveform link4. Multi-frequency link |

4-9. Which of the following options of the CP-2205(P)(V)/USQ-125 improves Link-11 operations by using four frequencies simultaneously?

1. Enhanced link quality analysis
2. Maximum useable frequency
3. Single-tone waveform link
4. Multi-frequency link

4-10. The normal configuration of the multi-frequency link options uses (a) HF frequencies and (b) UHF frequencies.

1. (a) 2 (b) 1
2. (a) 3 (b) 1
3. (a) 2 (b) 2
4. (a) 3 (b) 2

IN ANSWERING QUESTIONS 4-11 THROUGH 4-15, SELECT FROM THE FOLLOWING LIST THE SYSTEM TEST OPTIONS OF THE CP-2205(P)(V)/USQ-125 DATA TERMINAL SET DESCRIBED IN THE QUESTION. NOT ALL ITEMS IN THE LIST ARE USED.

- A. Radio echo test
- B. Loopback test 1
- C. Loopback test 2
- D. Loopback test 3
- E. Loopback test 4
- F. DTS fault isolation test

4-11. This option is selected when a single station POFA is running without the radio.

1. A
2. B
3. C
4. D

4-12. When this test is run, the computer interface is disabled and a test message is repeatedly sent to the radio set.

1. A
2. B
3. C
4. D

4-13. This test is used to verify the operation of the computer interface, crypto device and the data terminal interface circuits.

1. C
2. D
3. E
4. F

4-14. This test places the DTS in full-duplex mode to run a single station POFA with the radio.

1. A
2. B
3. C
4. D

4-15. This option performs an internal self-test of the DTS audio circuits.

1. A
2. B
3. C
4. D

4-16. The data terminal can be controlled from a remote location by use of which of the following pieces of equipment?

1. A 286 personal computer only
2. A 386 or better personal computer only
3. The C-12428/USQ-125 Control Unit only
4. Either a 386 or better personal computer, or the C-12428/USQ-125 Control Unit

- 4-17. Link-16 uses which of the following communications protocols?
1. Netted or roll call
 2. Time division, command and response
 3. Time division multiple access
 4. Frequency-division multiplexing
- 4-18. Each unit participating in a Link-16 net is identified by assigning it what type of designator?
1. A PU number
 2. A JU number
 3. A link identifier
 4. A hull number
- 4-19. What is the duration of each time slot in a Link-16 message?
1. 7.8125 msec
 2. 7.8125 μ sec
 3. 7.8125 seconds
 4. It varies, according to the amount of data transmitted
- 4-20. During the transmission of data, exactly how often does Link-16 change frequency?
1. Every 13 μ sec
 2. Every 13 msec
 3. Daily
 4. When the frequency is excessively noisy
- 4-21. Link-16 is configured for a stacked net. At any one time, what number of nets can a single terminal transmit and receive data?
1. One
 2. Two
 3. Three
 4. Four
- 4-22. A Link-16 data word is comprised of what number of data bits?
1. 50
 2. 60
 3. 70
 4. 80
- 4-23. A Link-16 fixed format message is which of the following message types?
1. V-series
 2. R-series
 3. M-series
 4. J-series
- 4-24. Which of the following message types are used for Link-16 voice communications?
1. Fixed format
 2. Free text
 3. Variable format
 4. Unformatted
- 4-25. Which of the following message types are used to exchange tactical data?
1. Fixed format
 2. Free text
 3. Variable format
 4. Unformatted
- 4-26. Compared to Link-11, Link-16 is nodeless for which of the following reasons?
1. Once the net is established, all units must participate
 2. Only one unit controls the net
 3. Once the net is established, operations can continue regardless of the participation of any particular unit
 4. A computer is not required to participate in the net

- 4-27. Which of the following JTIDS security features is designed to prevent jamming?
1. Data encryption
 2. Waveform encryption
 3. Introduction of jitter and noise
 4. Frequency hopping
- 4-28. Which of the following network participation groups is normally excluded from Navy command and control units?
1. Weapons coordination
 2. Air control
 3. Fight-to-fighter
 4. Secure voice
- 4-29. JU numbers 00001 through 00177 are normally assigned to which of the following units?
1. Link-4A and Link-16 capable units
 2. Command and Control units
 3. Link-16 capable aircraft
 4. Link-11 and Link-16 capable units
- 4-30. Which of the following Link-16 track numbers would designate the same Link- 11 track?
1. 00000 through 07777
 2. 01000 through 77777
 3. 00200 through 07777
 4. 00500 through 77777
- 4-31. A Link-16 track that has a reported track quality of 15 indicates the track is within exactly how many feet of the reported position?
1. 10
 2. 25
 3. 50
 4. 75
- 4-32. Which of the following track identifications has been added for use with the Link-16 system?
1. Neutral
 2. Hostile
 3. Assumed hostile
 4. Unknown
- 4-33. The identifier “Unknown assumed enemy” has been changed in the Link-16 system to what identifier?
1. Neutral
 2. Suspect
 3. Unknown assumed hostile
 4. Hostile
- 4-34. Link-16 has added which of the following data fields to friendly aircraft status reports?
1. Ordnance inventory
 2. Equipment Status
 3. Fuel available for transfer
 4. All of the above
- 4-35. The Relative Navigation function of the Link-16 system is required for which of the following functions?
1. Maintain synchronization
 2. Maintain position
 3. Detect course errors
 4. Correct the navigation plot
- 4-36. Which of the following equipment configurations fully implements the capabilities of the Link-16 system?
1. Model-3
 2. Model-4
 3. Model-5
 4. Model-6

4-37. Using the Link-16 Model-5 system, link data generated by the ACDS computer is normalized to be independent of any particular system.

1. True
2. False

4-38. Using the Link-16 Model-5 system, what component formats link data for transmission over any one of the three data links?

1. ACDS
2. C2P
3. Link-16 data terminal
4. TDS computer

IN ANSWERING QUESTIONS 4-39 THROUGH 4-42, SELECT FROM THE FOLLOWING LIST THE EQUIPMENT COMPONENT GROUPS OF THE JTIDS TERMINAL THAT PERFORMS THE FUNCTION OR OPERATION DESCRIBED IN THE QUESTION. NOT ALL ITEMS IN THE LIST ARE USED.

- A. Digital data processor group
- B. Receiver/transmitter group
- C. High power amplifier group
- D. Power interface unit
- E. Secure data unit

4-39. A removable assembly that stores cryptovariables.

1. B
2. C
3. D
4. E

4-40. Generates a 75 MHz intermediate frequency for internal communications.

1. A
2. B
3. C
4. D

4-41. Provides the interface with the antenna.

1. A
2. B
3. C
4. D

4-42. Performs digital-to-analog and analog-to-digital conversion of voice signals.

1. A
2. B
3. C
4. D

4-43. The Command and Control (C2P) system controls and manages the interface of which of the following data links?

1. Link-4A only
2. Link-11 only
3. Link-16 only
4. All tactical data links

4-44. Messages received by the C2P over the Link-11 net cannot be retransmitted over the Link-16 net.

1. True
2. False

4-45. A local area network (LAN) performs which of the following functions?

1. Enables users to share data
2. Enables users to share peripheral devices
3. Allows users to send and receive messages via computer
4. All of the above

- 4-46. Which of the following items is a node in a LAN system?
1. Twisted pair cable
 2. Communications media
 3. Fiber-optic cable
 4. Large capacity hard drive
- 4-47. Twisted pair cable used in a LAN has which of the following advantages?
1. High data transmission speeds
 2. Low costs and easy to install
 3. Shielded from electrical interference
 4. Secure data transmission
- 4-48. In designing a LAN system that requires the transmission of digital data, audio, and video simultaneously, which of the following cables would be best suited to the system?
1. Twisted pair
 2. Shielded twisted pair
 3. Broadband coaxial
 4. Baseband coaxial
- 4-49. Which of the following types of cable is immune to interference from electrical and electronic devices?
1. Fiber optic
 2. Baseband coaxial
 3. Shielded twisted pair
 4. Telephone cable
- 4-50. Which of the following devices provides the interface between the LAN and a personal computer?
1. Network server
 2. NIC
 3. Disk server
 4. Cables
- 4-51. Which of the following devices is used to manage the shared resources of the LAN?
1. Network server
 2. NIC
 3. Disk server
 4. Network monitor
- 4-52. Early disk servers suffered from which of the following problems?
1. Lack of security
 2. No data organization
 3. No disk management
 4. All of the above
- 4-53. Ensuring data integrity by preventing multiple users access to the same record at the same time is known as what process?
1. File locking
 2. Field locking
 3. Record locking
 4. Disk lockout
- 4-54. Which of the following servers was developed to provide reliable disk management in a LAN?
1. Disk server
 2. Print server
 3. File server
 4. Network server
- 4-55. Which of the following functions is NOT performed by the file server?
1. Routing files to a central printer for printing
 2. Processing of the network control software
 3. Converting high-level disks calls from a workstation to low-level disk commands
 4. Maintaining the list of user privileges and authorizations

- 4-56. When designing and building a LAN system, all workstations must be from the same manufacturer.
1. True
 2. False
- 4-57. The OSI reference model is used to define which of the following communications standards?
1. Interconnection of communications facilities
 2. Software
 3. Hardware
 4. Protocol
- 4-58. What layer of the OSI reference model describes the electrical, the mechanical, and the functional interface of the communications channel?
1. Physical layer
 2. Data link layer
 3. Network layer
 4. Transport layer
- 4-59. What layer of the OSI reference model establishes and deletes host-to-host connections across the network?
1. Data link layer
 2. Network layer
 3. Transport layer
 4. Session layer
- 4-60. As a translator for the network, what layer of the OSI reference model provides a common representation for data which can be used between the application processes?
1. Network layer
 2. Transport layer
 3. Session layer
 4. Presentation level/layer
- 4-61. Which of the following layers of the OSI reference model provides error-free transmission of information over the physical medium?
1. Physical
 2. Data link
 3. Network
 4. Transport
- 4-62. Communications between users on two different machines are established by what layer of the OSI reference model?
1. Data link
 2. Network
 3. Transport
 4. Session
- 4-63. Based on network conditions and priority of service, what layer of the OSI reference model decides which physical pathway the data should take?
1. Physical
 2. Data link
 3. Network
 4. Transport
- 4-64. The application level/layer of the OSI reference model provides the protocols for which of the following user items?
1. Media interface
 2. Electronic mail
 3. Routing of messages between networks
 4. Data compression
- 4-65. Which of the following is NOT a LAN topology?
1. Linear
 2. Ring
 3. Star
 4. EtherNet

4-66. Which of the following features of a linear bus topology should be considered an advantage?

1. Signal interference when nodes are too close to each other
2. System remains operable even when one or more nodes fail
3. Very secure system
4. Very easy to run system diagnostics from the LAN administrator

4-67. In which of the following network topologies, if any, is each node individually connected to the network server?

1. Linear bus
2. Star
3. Ring
4. None of the above

4-68. Which of the following network access methods requires each node to wait for permission to transmit data?

1. CSMA
2. CSMA/CD
3. Token passing
4. Contention

4-69. On a network that uses the CSMA/CD access method, which of the following actions, if any, will be taken when a data collision is detected?

1. The workstation will cease transmission and wait until the line is clear
2. The workstation will continue to transmit data
3. The network server will assign the next open time to the workstation that suffered the collision
4. No action is taken; the data is lost

4-70. In a LAN using a token ring topology, the interface and protocols are defined by which of the following IEEE standards?

1. IEEE 802
2. IEEE 802.3
3. IEEE 802.4
4. IEEE 802.5

4-71. Which of the following LAN systems uses a token ring topology and has a data throughput of 4 Mbits and 16 Mbits per second?

1. EtherNet
2. STARLAN
3. ARCnet
4. IBM Token Ring

IN ANSWERING QUESTIONS 4-72 THROUGH 4-74, SELECT FROM THE FOLLOWING LIST THE NETWORK OPERATING SYSTEM COMPONENT THAT PERFORMS THE FUNCTION DESCRIBED IN THE QUESTION. NOT ALL ITEMS IN THE LIST ARE USED.

- A. Control kernel
- B. Network interfaces
- C. File systems
- D. File extensions

4-72. Provides low-level subnet protocols and translation for bridging hardware drivers with the network operating system.

1. A.
2. B.
3. C.
4. D.

4-73. Controls data organization, storage, and retrieval on the various storage systems available to the network.

1. A.
2. B.
3. C.
4. D.

4-74. The main subsystem of the network operating software.

1. A.
2. B.
3. C.
4. D.

4-75. Which of the following network operating systems, if any, is designed for very few users and light usage?

1. Full featured
2. Low cost
3. Zero slot
4. None of the above

